KOSTYRYA, Vyacheslav Afanas'yevich

[Encounters; sketches about people of the new Uzbekistan] Vstrechi; ocherki o liudiakh novogo Uzbekistana. Tashkent, Goslitizdat UzSSR, 1958. 161 p. (MIRA 12:11)
(Uzbekistan)

KOSTYRYA, I.S., pediatr (Gorlovka, Donbass)

Why doesn't this concern you? Zdorov'e 6 no.3:20-21 Mr '60.
(MIRA 13:5)

(PEDIATRICS)

KOSTYRKOWA, K., mgr

Hygrometric diagrams set nomographically. Pomiary 9 no.2:94-95 F '63.

1. Laboratorium Pomiarow Wilgotnosci, Glowny Urzad Miar, Warszawa.

SACEWICZ, J.; KOWALSKI, J.; GIZMAJER, A.; KOSTYNKOWA, K.

Survey of books and articles. Pomiary 10 no. 1: Supplement: Przegl dokum metrol 14 no. 1: 47-48 Ja '64.

KOSTYRKO, V. P.

Cand Geog Sci - (diss) "South of the virgin border. (Rayony subordinate to the Krayinspolkom). Modern economy. Problems of the rational utilization of natural and economic resources." Alma-Ata, 1961. 19 pp; (Ministry of Education RSFSR, Moscow State Pedagogical Inst imeni V. I. Lenin); 300 copies; price not given; (KL, 5-61 sup, 178)

KOSTYRKO, V. P. Cand Geog Sci -- (diss) "Akmolinskaya Oblast.(Economic geographic description)." Alma-Ata, 1959. 20 pp (Min of Education RSFSR. Mos State Ped Inst im V. I. Lenin), 150 copies (KL, 45-59, 144)

KOSTYRKO, V.P.

Several problems in developing the economy of TSelinograd Province. Trudy Otd. geog. AN Kazakh. SSR no.10:195-199 '63. (MIRA 16:10)

KOSTYRKO, V.F.

Error in I.I.Zhegalkin's article "The decidability problem in finite classes." Alg. i log. 1 no.5:31-36 '62.

(MIRA 18:1)

KOSTYRKO, V.F.

The Entscheidungsproblem for an Ackermann case. Sib.mat.zhur. 6 no.2:342-363 Mr-Ap '65. (MIRA 18:5)

KOSTYRKO, V.F.

Class of reducibility of $\forall\exists\forall$. Alg. i log. 3 no.5/6:45-55 '64.
(MIRA 18:6)

KOSTYRKO, Pavel; SHALAT, Tibor [Salat, Tibor]

On functions whose graphs are closed sets. Cas pro pest mat 89 no. 4:426-432 O '64.

1. Comenius University, Bratislava, Smeralova 2. Submitted August 7, 1963.

YEFIMOV, V.A., doktor tekhn. nauk; LUZAN, P.P., kand. tekhn. nauk; KHAN, B.Kh., kand. tekhn. nauk; KOSTYUKO, O.S., kand. tekhn. nauk

Scientific and technical conference on the theory and practice of founding processes. Lit. proizv. no.12:33-34 D '65.
(MIRA 18:12)

L 35019-65 EWT(m)/EWP(w)/EWA(d)/T/EWP(t)/EWP(b) JD

ACCESSION NR: AR5006377 S/0276/64/000/012/G008/G008

SOURCE: Ref. zh. Tekhnologiya mashinostroyeniya. Svodnyy tom, Abs. 12G58

AUTHOR: Braun, M. P.; Vinokur, B. B.; Kondrashev, A. I.; Kostyrko, O. S.

TITLE: The principles of steel alloying (Comments on the hypotheses of A. P. Gulyayev)

CITED SOURCE: Sb. Legirovaniye staley. Kiyev, Gostekhizdat USSR, 1963, 253-260

TOPIC TAGS: steel alloying, steel property

TRANSLATION: The authors present a critique of the basic theorems proposed by A. P. Gulyayev concerning the effects of alloying on some properties of steels. Bibl. with 6 titles. L. Koblikova.

SUB CODE: MM ENCL: 00

Card 1/1

BRAUN, Mikhail Petrovich; VINOKUR, Bertol'd Bentsionovich; CHERNOV, Arkadiy Vasil'yevich; CHERNYY, Viktor Gavrilovich; ALEKSANDROV, Anatoliy Grigor'yevich; KOSTYUKO, Oleg Stepanovich; ALEKSANDROVA, Natal'ya Pavlovna; LYASHENKO, Lyudmila Aleksandrovna; MATYUSHENKO, Nelli Ivanovna; FIKSEN, N.V., kand. tekhn. nauk, otv. red.; POKROVSKAYA, Z.S., red.

[Structural and heat-resistant alloys] Konstruktsionnye i zharoprochnye splavy. Kiev, Izd-vo AN USSR, 1963. 149 p. (MIRA 17:3)

1. Akademiya nauk URSR, Kiev. Institut liteynogo proizvodstva.

L 23363-65
ACCESSION NR: AR5000599

Much work has been carried out recently which refutes this principle. According to A. P. Gulyaev's data, excessive alloying causes a worsening of dynamic ductility, but with an increase in the addition of nickel in alloying there is an improvement in a_k. A. P. Gulyaev incorrectly considers molybdenum as the only element which suppresses brittleness in tempering. It is proposed that tungsten be added to steels in small quantities to improve hardenability. High ductility and a low threshold of cold brittleness, in the opinion of A. P. Gulyaev, can be improved only when a fine truly austenitic grain structure is preserved. The grain fineness of the structure has a considerable effect on ductility, but the decisive factor is the alloying. To obtain a fine grain structure, A. P. Gulyaev proposes to introduce 1 kg aluminum and 3-4 kg titanium per ton of steel, but such an amount of aluminum is excessive because it has such a marked bad effect on the fluidity of the metal. The titanium content should be increased slightly, calculating a 50% loss. The same applies to niobium, vanadium, and zirconium. The addition of these elements should be made in amounts from 0.1 to 0.3%. The alloying of steel with rare earth elements has only a modifying effect and does not bring about any marked improvement in hardenability. L. Koblikova

Card 2/2 SUB CODE: MM ENCL: 00

L 23363-65 EWT(m)/EWP(w)/EWA(d)/T/EWP(t)/EWP(b) JD

ACCESSION NR: AR5000599 S/0137/64/000/008/I065/I065

SOURCE: Ref. zh. Metallurgiya. Sv. t., Abs. 8I413

AUTHOR: Braun, M. P.; Vinokur, B. B.; Kondrashev, A. I.; Kostyrko, O. S.

TITLE: The problem of the principles of alloying steel

CITED SOURCE: Sb. Legirovaniye staley. Gostekhizdat USSR, 1963, 253-260

TOPIC TAGS: alloying, steel, steel alloying, steel hardening, metal ductility, metal brittleness, metal grain structure

TRANSLATION: In the works of A. P. Gulyaev (RZhMet, 1961, 12D344) there is a discussion of the effect of alloying on certain properties of steel. He proposes to divide steels into 7 categories according to sigma$_b$; this means that various steels in the same sigma$_b$ group could differ substantially in the most important rated characteristic, sigma$_s$. A. P. Gulyaev incorrectly thinks that alloying is basically necessary only for the attainment of the required hardenability.

Card 1/2

BRAUN, Mikhail Petrovich; VINOKUR , Bertol'd Bentsionovich; CHERNOVOL, Arkadiy Vasil'yevich; CHERNYY, Viktor Gavrilovich; ALEKSANDROV, Anatoliy Grigor'yevich; KOSTYRKO, Oleg Stepanovich; ALEKSANDROVA, Natal'ya Pavlovna; LYASHENKO, Lyudmila Aleksandrovna; MATYUSHENKO, Nelli Ivanovna; FIKSEN, N.V., kand. tekhn. nauk, otv. red.; POKROVSKAYA, Z.S., red.; DAKHNO, Yu.B., tekhn. red.

[Structural and heat-resistant alloys] Konstruktsionnye i zharoprochnye splavy. Kiev, Izd-vo AN USSR, 1963. 149 p. (MIRA 17:3)

1. Akademiya nauk URSR, Kiev. Instytut lyvarnoho vyrobnytstva.

BRAUN, M.P., doktor tekhn. nauk; KOSTYRKO, O.S., inzh.

Effect of dimensions of heat-treated specimens on the impact toughness of 40KhNL steel. Mashinostroenie no.3:24-26 My-Je '63. (MIRA 16:7)

(Steel--Testing)

BRAUN, Mikhail Petrovich; VINOKUR, Bertol'd Bentsionovich; CHERNYY, Viktor Gavrilovich; CHERNOVOL, Arkadiy Vasil'yevich; KOSTYRKO, Oleg Stepanovich; ALEKSANDROVA, Natal'ya Pavlovna; KRUKOVSKAYA, Galina Nikolayevna; TIKHONOVSKAYA, Larisa Dmitriyevna; LYASHENKO, Lyudmila Aleksandrovna; FIKSEN, N.V., kand. tekhn. nauk, otv. red.; POKROVSKAYA, Z.S., red.; KADASHEVICH, O.A., tekhn. red.

[Alloys with addition elements] Legirovannye splavy. [By] M.P. Braun i dr. Kiev, Izd-vo AN Ukr.SSR, 1963. 142 p. (MIRA 16:8)

(Alloys--Metallurgy)
(Foundries--Equipment and supplies)

brittleness and for steel not subjected to such treatment. With increasing specimen size the notch-toughness increases significantly more intensely in the absence of reversible temper brittleness than in its presence. The increases in notch-toughness occur according to a linear law. The character of the change of the curves and the appearance of the fracture does not suggest a displacement of the critical transition temperature in the brittle state toward higher T's with increasing specimen size. If we define the cold-brittleness threshold as corresponding to a 50% decrease in toughness, then the magnitude of the cold-brittleness interval approximates 75°C. A comparison with the planimetric method yields similar results. The dependence of the impact work on the deformation characteristic Δb has a rectilinear character. The deformation characteristic Δb increases in magnitude with increasing specimen size, both in the presence and in the absence of reversible temper brittleness. The coefficient of proportionality, $K=A_K/\Delta b$, grows in absolute value with a growth in specimen size; however, the ratio $K_{furnace}/K_{water}$ changes but insignificantly. There are 3 figures, 2 tables, and 15 references (10 Russian-language Soviet, 2 German, 1 Swedish, and 2 English-language).

ASSOCIATION: Institut liteynogo proizvodstva, AN USSR (Institute of Casting Production, AS UkrSSR).

S/743/62/000/001/007/008

AUTHORS: Kostyrko, O.S., Braun, M.P.

TITLE: The development of temper brittleness upon a change in the sectional magnitude of impact specimens.

SOURCE: Struktura i svoystva litykh splavov. no.1. Inst. lit. proizv. AN USSR. Kiev, Izd-vo AN UkrSSR, 1962, 102-115.

TEXT: The paper reports the results of an experimental investigation intended to obtain more complete data on the dependence of the notch-toughness on the scale factor in conditions of geometric similarity and structural equality of the specimens studied and with the specimen in a state of reversible temper brittleness or in its absence. The specimens were made of rolled billets of 40XH (40KhN) steel. The billets of the impact specimens were first annealed at a temperature of 1,100°C for 3 hrs to obtain uniform grain structure and were quenched in oil from a temperature of 1,000°C. Tests reported in Zavodskaya laboratoriya, v.27, 1961, 318, show that the specimens were fully hardened across their thickness. Upon 2-hr tempering at 570°, one-half of the specimens were cooled in water, the other half in the furnace at a rate of 10°C/hr. H_{RC} of the specimens ranged within 25-27. Notch-toughness tests were performed at T from +200 to -180°C. The tabulated and graphed test data show that, with an increase in the size of the specimen, the level of notch-toughness increases both for steel heat-treated for reversible temper

Card 1/2

BRAUN, M.P., doktor tekhn.nauk, prof.; VINOKUR, B.B., inzh.; KONDRASHEV, A.I., inzh.; KOSTYRKO, O.S., inzh.

Principles of the alloying of steel. Metalloved. i term. obr. met. no.5:26-29 My '62. (MIRA 15:5)

1. Kiyevskiy politekhnicheskiy institut.
(Steel alloys--Metallurgy)

KOSTYRKO, O.S.; BRAUN, M.P.

Development of temper brittleness during changes in the cross-section of impact test specimens. Struk.i svois.lit.splav. no.1:110-115 '62. (MIRA 15:5)
(Steel--Brittleness) (Metals, Effect of temperature on)

BRAUN, M.P.; KOSTYRKO, O.S.; LITENKO, N.T.; SOKOL, A.N.; VINOKUR, B.B.; MIROVSKIY, E.I.

Steel plasticity in high temperature fields. Izv. vys. ucheb. zav.; chern. met. no.2:57-61 '60. (MIRA 15:5)

1. Ukrainskaya akademiya sel'skokhozyaystvennykh nauk.
(Steel--Testing)
(Metals at high temperature)

BRUN, M.P.; KOSTYRKO, O.S.

Reply to IU.E. Bondarev's remarks. Zav.lab. 28 no.6:762 '62. (MIRA 15:5)

1. Institut liteynogo proizvodstva AN USSR.
(Steel--Brittleness)

S/032/61/027/003/015/025
B101/B203

Temper embrittlement of steel ...

Legend to Fig. 2: a) cross section of specimen, mm×mm; b) impact strength

Fig. 2

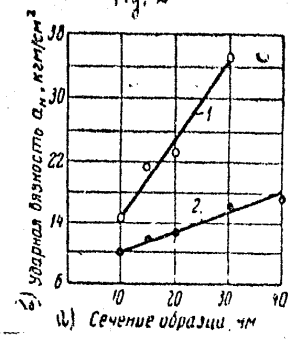

Fig. 2

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Temper embrittlement of steel ...

Legend to Table 2: Change in impact strength (a_H, kgm/cm^2) and in impact energy (A_H, kgm) with increasing specimen size: 1) size of specimens, mm; 2) viscous state, 3) specimens were not destroyed but bent to 11°, 4) a crack up to 24 mm long was formed, 5) average, 6) brittle state

1 10×10		15×15		20×20		30×30		40×40	
A_H	a_H	A_H	a_H	A_H	a_H	A_H	a_H	A_H	a_H
2 Вязкое состояние									
11,8	14,8	35,0	20,2	75,0	23,8	250	35,5	3 Образцы не разрушились, а изогнулись до 11°.	
11,2	13,9	35,0	19,9	75,5	24,1	250	35,1		
11,4	14,2	30,6	18,1	73,0	23,4	248	34,5	4 Наблюдалась слабая трещина длиной до 24 мм	
12,1	15,1	34,2	19,8	70,5	22,4	246	34,8		
5 Среднее	14,5		19,5		23,4		35,0		
6 Хрупкое состояние									
8,1	10,1	19,1	11,0	38,0	13,0	121	17,1	216	17,2
7,6	9,5	21,3	12,1	35,5	11,3	117	16,2	205	16,5
8,4	10,4	20,6	11,8	37,0	12 6	108	15,1	218	17,1
7,8	9,8	21,1	12,2	38,5	13,2	116	16,2	221	17,5
5 Среднее	9,9		11,8		12,5		16,2		17,2

Temper embrittlement of steel ...

is mentioned. There are 3 figures, 3 tables, and 9 references: 6 Soviet-bloc and 3 non-Soviet-bloc.

ASSOCIATION: Institut liteynogo proizvodstva Akademii nauk USSR (Institute of Founding of the Academy of Sciences UkrSSR)

Legend to Fig. 1: a) tempering temperature; b) impact strength

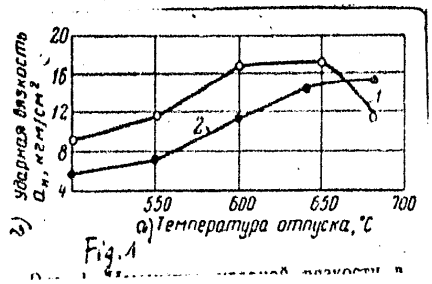

Fig. 1

Fig.1

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S/052/61/027/003/015/025
B101/B203

chosen for further tests. To attain grain tempering in specimens of different sizes they were annealed at 1 000°C for 5 hours, then tempered in oil at 1000°C for 1 hr. A uniform hardness of Rc 39 at a depth of up to 37 mm in the specimen was attained (size of specimen 10×10 mm). To obtain comparable results geometrically similar specimens were used: 10×10×55; 15×15×83; 20×20×110; 30×30×165, and 40×40×220 mm. The impact tests were made at room temperature by an impact machine of 30, 75, and 250 kgm power. Table 2 shows the results. It was found that in the absence of temper embrittlement specimens had a considerable reserve of impact strength which increased with increasing specimen size. Fig. 2 shows the change in impact strength in the brittle and viscous state as a function of specimen size. A study of the fine structure showed that the grain boundaries were slightly etched in the brittle state. A dependence of the etching effect on the specimen size was not observed. It is concluded that the experimental values for standard specimens cannot be applied to large workpieces whose impact strength is much higher. In the case of temper embrittlement, the impact strength increases much less with increasing specimen size than in the viscous state. A study of fractured surfaces showed that every brittle fracture was preceded by noticeable plastic deformation. M. I. Vinograd

2808
1418, 1273

10 9230

S/032/61/027/003/015/025
B101/B205

AUTHORS: Braun, M. P. and Kostyrko, O. S.

TITLE: Temper embrittlement of steel in connection with the size effect

PERIODICAL: Zavodskaya laboratoriya, v. 27, no. 3, 1961, 318-321

TEXT: The dependence of brittleness on the specimen volume has often been studied in stretch and bending tests. Few papers have, however, been published on the effect of the size factor when testing the brittleness by means of Charpy impact machines. The present investigation attempts to obtain more data on the impact strength of steel in the brittle and viscous state. The authors studied 40ХН (40KhN) steel which has a marked tendency to temper embrittlement. To obtain maximum temper embrittlement they made preliminary tests. Ten specimens 10×10×55 mm were hardened at 1000°C, and tempered at 500, 550, 600, 640, or 680°C for 1 hour. Five specimens were quenched in water, the others were quenched in the furnace to 550°C at 50°C per hour. Results (Fig. 1) showed a maximum difference of impact strength between 550 and 600°C; therefore, a temperature of 570°C was

Card 1/5

PHASE I BOOK EXPLOITATION SOV/5811

Nauchno-tekhnicheskoye obshchestvo mashinostroitel'noy promyshlennosti. Kiyevskoye oblastnoye pravleniye.

Metallovedeniye i termicheskaya obrabotka (Physical Metallurgy and Heat Treatment of Metals) Moscow, Mashgiz, 1961. 350 p. Errata slip inserted. 5,000 copies printed.

Sponsoring Agency: Gosudarstvennyy nauchno-tekhnicheskiy komitet Soveta Ministrov USSR. Nauchno-tekhnicheskoye obshchestvo mashinostroitel'noy promyshlennosti. Kiyevskoye oblastnoye pravleniye.

Editorial Board: M. P. Braun, Doctor of Technical Sciences, I. Ya. Dekhtyar, Doctor of Technical Sciences, D. A. Draygor, Doctor of Technical Sciences, I. O. Kamenichnyye, Engineer, Ye. A. Markovskiy, Candidate of Technical Sciences, V. G. Pervushov, Doctor of Technical Sciences, and A. V. Chernovol, Candidate of Technical Sciences; Ed.: M. S. Soroka; Tech. Ed.: M. S. Gornostayepol'skaya; Chief Ed., Mashgiz (Southern Dept.): V. K. Serdyuk, Engineer.

Card 1/10

PURPOSE: This collection of articles is intended for scientific workers and technical personnel of research institutes, plants, and schools of higher technical education.

COVERAGE: The collection contains papers presented at a convention held in Kiyev on problems of physical metallurgy and methods of the heat treatment of metals applied in the machine industry. Phase transformations in metals and alloys are discussed, and results of investigations conducted to ascertain the effect of heat treatment on the quality of metal are analyzed. The possibility of obtaining metals with given mechanical properties is discussed, as are problems of steel brittleness. The collection includes papers dealing with kinetics of transformation, heat treatment, and properties of cast iron. No personalities are mentioned. Articles are accompanied by references, mostly Soviet.

TABLE OF CONTENTS:

Card 3/10

Ductility of Steel in the Range of High Temperatures

recrystallization processes. It appears from graphs 1, 2, 3 and a set of photographs (4) that higher content of C, Cr, Ni and particularly Ti speeds up the recrystallization processes. Addition of Cr, Ni, Ti and C atoms reduces the interatomic attraction in austenite crystals, this appears in the lower melting temperature of 5KhNT steel in comparison to 55Kh and 45 grade steel.
There are: 1 table, 3 sets of graphs, 1 set of photographs and 4 Soviet references.

ASSOCIATION: Ukrainskaya akademiya sel'skokhozyastvennykh nauk (Ukrainian Academy of Agricultural Sciences)

SUBMITTED: February 12, 1959

V/B

Card 2/2

S/148/60/000/002/003/008

AUTHORS: Braun, M.P., Kostyrko, O.S., Litenko, N.T., Sokol, A.N., Vinokur, B.B., Mirovskiy, E.I.

TITLE: Ductility of Steel 14 in the Range of High Temperatures 18

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Chernaya metallurgiya, 1960, Nr 2, pp 57 - 61

TEXT: The authors investigated the effect of elevated heating temperatures of steel on its ductility and workability by pressure. Carbon 45, 18 Chromium 55Kh and chrome-nickel-titanium 5KhNT steels were investigated. Their composition is given in a table. The specimens were subjected to impact tests, static tension and dynamic jolting. Prior to deformation, the 45 steel specimens were preheated from 1240° to 1270°C, 55Kh specimens from 1220° to 1250°C and 5KhNT from 1180° to 1210°C. Results of tests are given in graphs (Figures 1, 2, 3). They show that a raise of temperature by 30°C does not reduce ductility and workability by pressure of the steels. Within the range of high temperatures (1100° - 1200°C) ductility of 5KhNT steel exceeds that of 55 Kh and 45 grade steel due to speeded-up development of

VB

Card 1/2

Rational Heat Treatment Rates for Hot Rolling Rolls

(T)
30d/12-60-2-5/13

It was found that isothermal holding immediately after forging failed to prevent flake formation. By heating steel after the initial overcooling, flakes have no time to develop. Subsequent overcooling promotes considerable H liberation. The minor amounts of H which remain in the steel do not enhance flake formation. The authors recommend the application of the above heat treatment rates which combine annealing and normalization and reduce the time of heat treatment of large-size forgings by 40%. Hundreds of rolls have already been heat-treated by the above method, and considerable saving was achieved at the plant. There are 4 figures; 2 tables; and 4 Soviet references.

ASSOCIATION: Novo-Kramatorskiy Machine Building Plant (Novo-Kramatorskiy mashinostroitel'nyy zavod)

Card 6/6

Key to Table 2. (a) Heat treatment group; (b) specimens taken from; (c) tensile strength, kg/mm^2; (d) yield point, kg/mm^2; (e) elongation; (f) reduction of area; (g) impact strength, kgm/cm^2; (h) mean, kg/mm^2; (i) number of flakes; (j) surface; (k) 1/3 radius; (l) 2/3 radius; (m) center part.

(a)	(b)	(c)	(d)	(e) %	(f) %	(g)	(h)	(i)
IV	(j)	81,4	41,1	18	26,7	2,6	228–241	75
	(k)	82,1	42,3	16,2	23,4	1,9		
	(l)	83,4	39,7	13,4	24,8	2,1		
	(m)	81,8	39,1	14,2	21	1,9		
	(j)	90,1	42,9	13,5	21,4	2,1	228–252	3
	(k)	81,1	36,8	12,8	21,6	2,3		
	(l)	75,6	39,4	12,3	19,3	2,8		
	(m)	74,8	36,5	10,3	19,8	3,1		

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000825300043-6

Rational Heat Treatment Rates for Hot Rolling Rolls

For a complete analysis of heat treating, the author calculated the amount of H escaping from a cylinder with 1,000 mm diam at various temperatures of [illegible] thermal holding. The period during which H escaped was calculated according to a formula [illegible] (see Ref 1 Stal', 1961, Nr 3). The author indicates that 100 g 55Kh-steel contains 8 cm^3 H and maximum 4 cm^3 H after heat treatment. Calculations also show that H is liberated slowly from large forgings during austempering. Most flakes were identified in air-cooled forgings and a minimum number or none in specimens heat-treated according to method IV which has following characteristics:

Card 4/6

as rolls were forged with the same degree of reduction. Tensile tests allowed the observations of hardness changes along the cross section of specimens. Flakes were detected by means of magnetic defectoscope. Table 1 shows data relating to weight and chemical composition of specimens.

Key to Table 1: (A) Heat treatment group; (B) ingot weight in tons; (C) specimen weight in tons; (D) contents of elements in %.

(A)	(B)	(C)	(D)		
			C	Mn	Cr
I	42	6,2	0,56	0,54	1,20
II	42	6,1	0,57	0,57	1,12
II	42	6,1	0,57	0,57	1,12
III	32	7,5	0,52	0,51	1,17
III	32	7,3	0,52	0,51	1,17
III	36	8	0,56	0,54	1,20
IV	42	6,1	0,57	0,57	1,12
IV	42	7,8	0,56	0,54	1,20
IV	32	8,2	0,56	0,55	1,33

Note: Si--0.26 to 0.32%; S--0.020 to 0.33%; P--0.016 to 0.025%.

Rational Heat Treatment Rates for Hot Rolling Rolls

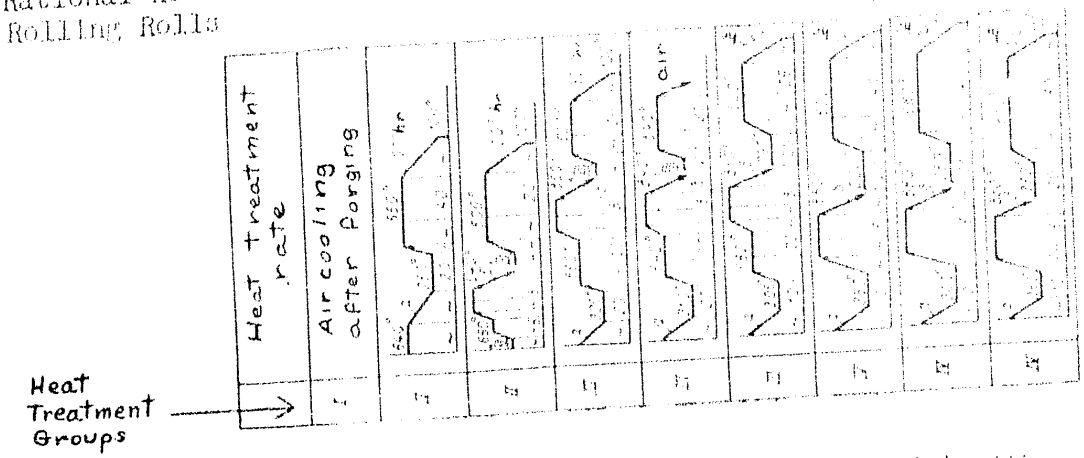

Fig. 2. Experimental rates. Cooling (a) with furnace and (b) in air.

Specimens of different weight were taken from ingots used for the production of rolls. Specimens as well

Card 2/6

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SOV/129-60-2-9/13

18.7100

AUTHORS: Braun, M. P. (Professor, Doctor of Technical Sciences), Kostyrko, O. S., Dobryanskaya, Ye. P., Kondrashev, A. I. (Engineers)

TITLE: Rational Heat Treatment Rates for Hot Rolling Rolls

PERIODICAL: Metallovedeniye i termicheskaya obrabotka metallov, 1960, Nr 2, pp 48-52 (USSR)

ABSTRACT: At Novo-Kramatorskiy Plant (Novo-Kramatorskiy zavod) in Kramatorsk protracted heat treatment of hot rolling rolls failed to remove flakes. In order to study the effect of cooling rates on flake formation after forging 55Kh-steel specimens, the authors tested four different heat treatment methods (see Fig. 2).

Card 1/6

BRAUN, M.P., prof.; KOSTYRKO, O.S.; DOBRYANSKAYA, Ye.P.; KONDRASHEV, A.I.

Efficient heat treatment process for hot rolling mill rolls.
Izv.vys.ucheb.zav.; chern.met. 2 no.8:105-112 Ag '59.
(MIRA 13:4)

1. Ukrainskaya Akademiya sel'skokhozyaystvennykh nauk.
(Rolls(Iron mills)) (Steel--Heat treatment)

S/126/60/010/01/009/019
E111/E335

Mechanism of Shrinkage in Sintering Briquettes of Metal Powders

a minor part in the overall compacting. The main effect is due to diffusion processes leading to rearrangement of particle surfaces and not diffusion inside particles. The authors recommend pre-annealing of metal powders to reduce shrinkage in sintering and reduce the size and deformations of the objects being made. There are 3 figures, 5 tables and 18 references: 17 Soviet and 1 English.

ASSOCIATION: Institut metallokeramiki i spetsial'nykh splavov AN USSR (Institute of Cermets and Special Alloys of the Ac.Sc., Ukrainian SSR)

SUBMITTED: March 31, 1960

Card 3/3

Mechanism of Shrinkage in Sintering Briquettes of Metal Powders

800, 950, 1 000 and 1 100 °C are shown in Table 2. Porosity before and after pressing (at 2.2 or 4,4 tons/cm^2), the change in porosity, volume shrinkage and increase in briquette density is shown in Table 3 before and after annealing at 1 000 °C (metals) and 950 °C (mixtures). Values (calculated by A.I. Raychenko) of the movement of the diffusion front after heating at 800 - 1100 °C for 1, 2 and 4 hours are given in Table 4 for the cobalt diffusing into nickel and self-diffusion for cobalt and iron. Table 5 gives for the two mixtures the porosity after pressing, annealing at 950 °C, re-pressing in the cold and sintering at 1100 °C. Fig. 1 illustrates particle sintering during preliminary annealing. Fig. 2 shows a shrinkage crack in a briquette of non-annealed powder containing a cylinder of massive iron: such cracks were not observed with a similar briquette of previously annealed powder. The work showed that heterodiffusion in surface layers of particles during annealing powder mixtures reduces briquette shrinkage. Compacting of briquettes on account of elimination of internal defects and disappearance of internal porosity of particles was found to play

Kostyrko, N.V.

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S/126/60/010/01/009/019
E111/E335

AUTHORS: Fedorchenko, I.M. and Kostyrko, N.V.

TITLE: Mechanism of Shrinkage in Sintering Briquettes of Metal Powders

PERIODICAL: Fizika metallov i metallovedeniye, 1960, Vol. 10, No. 1, pp 75 - 83

TEXT: Fedorchenko has developed (Refs.1-4) the concept of shrinkage as a consequence of diffusion initially in the surface and then in both surface and volume of the particles. Views on this and other concepts vary (Refs. 6-15). The present work has the object of providing further data on the influence of annealing on the specific surface and pycnometric density of powders and on briquette-shrinkage on sintering. Powders of iron and cobalt (prepared by reduction of analytical-purity oxides) and of two mixtures (respectively 0, 5% Fe; 63, 20% Co; 5, 60% Ni; 27, 15% Cr; 5, 0% Mo) were used. Nickel and molybdenum were also prepared by reduction, chromium by crushing cast metal. Fractions of powders passing through 55-micron screen holes were used. The specific surface, pycnometric density and bulk density of the powders as prepared and after annealing at

Card 1/3

KOSTYRKO, I.M., laureat Stalinskoy premii; DLUGACH, B.A., redaktor; KANDYKIN, A.Ye., tekhnicheskiy redaktor.

[Rhythm in section freight and train work] Ritmichnost' v gruzovoi i poezdnoi rabote uchastka. Moskva, Gos. transp. zhel-dor. izd-vo, 1953. 51 p. (MLRA 7:9)

(Railroads--Train dispatching)

KOSTYRKO, I.I.

Some analytic properties of the amplitudes of inelastic processes. Ukr. fiz. zhur. 8 no.5:549-554 My '63. (MIRA 16:8)

1. Institut matematiki AN UkrSSR, Kiyev.

L 17184-63

ACCESSION NR: AP3000233

of external particles, under which the amplitudes of scattering with five and six external pulses in any order of perturbation theory are analytical in complex planes with sections. Orig. art. has 23 equations.

ASSOCIATION: Insty*tut matematy*ky* AN UkrSSR (Institute of Mathematics, AN UkrSSR)

SUBMITTED: 19 Nov 62 DATE ACQ: 18 Jun 63 ENCL: 00

SUB CODE: PH NO REF SOV: 001 OTHER: 007

Card 2/2

L 17184-63 EWT(m)/BDS AFFTC/ASD

8/0185/63/008/005/0549/0554

ACCESSION NR: AP3000233

52
51

AUTHOR: Kostyrko, I. I.

TITLE: Some analytic properties of the amplitudes of inelastic processes

SOURCE: Ukrayins'kyy fizychnyy zhurnal, v. 8, no. 5, 1963, 549-554

TOPIC TAGS: strong coupling, invariant, external pulse, scattering amplitude, perturbation theory, complex plane, matrix element, inelastic process, analytic property

ABSTRACT: The theory of strong coupling in recent years has been developed mainly by investigating the analytic properties of matrix elements as invariant functions. The major accomplishment in this field was the development of double representation of the amplitude of elastic processes by Mandelstam, S. (Phys. Rev. 112, 1344, 1958), but the presence of many independent invariants in the case of inelastic processes considerably complicates the investigations. In this connection, the author investigates the analytic properties of scattering amplitudes with five and six external pulses and determines the conditions for the invariants and masses

Card 1/2

Determination of the analyticity ...

analyticity region. Inequalities are derived for the regions mentioned in the title.

SUBMITTED: February 22, 1962

Card 2/2

S/041/62/014/004/004/007
B172/B112

AUTHOR: Kostyrko, I. I. (Kiyev)

TITLE: Determination of the analyticity regions of Feynman integrals corresponding to the nucleon-nucleon, pion-nucleon, and K-meson-nucleon scattering

PERIODICAL: Ukrainskiy matematicheskiy zhurnal, v. 14, no. 4, 1962, 411 - 417

TEXT: The analyticity regions are determined on the basis of the general integral representation of N. Nakanishi (Prog. Theor. Phys., v. 26, 1960, 337 - 355) $\int_{-\infty}^{\infty} d\alpha \int_0^1 dx \frac{\rho_{12}(\alpha,x)}{\alpha - xs - (1-x)t - i\varepsilon} + \int_{-\infty}^{\infty} d\beta \int_0^1 dy \frac{\rho_{23}(\beta,y)}{\beta - yt - (1-y)u - i\varepsilon} +$ $+ \int_{-\infty}^{\infty} d\gamma \int_0^1 dz \frac{\rho_{31}(\gamma,z)}{\gamma - zu - (1-z)s - i\varepsilon}$, where α, γ and β must satisfy certain inequalities e. g. $\alpha \geq (2m_\pi)^2$, $\beta \geq (2m_\pi)^2$, $\gamma \geq (2m_\pi)^2$ for the case of pions. All invariants s, t for which no denominator in (2) vanishes belong to the

Card 1/2

S/185/62/007/010/002/020
D234/D308

Taking into account ...

most important English-language reference reads as follows: N. Nakanishi, Prog. Theor. Phys., 23, 337, 1960.

ASSOCIATION: Instytut matematyky AN URSR (Institute of Mathematics, AS UkrSSR)

SUBMITTED: March 13, 1962

Card 2/2

S/185/62/007/010/002/020
D234/D308

AUTHOR: Kostyrko, I. I.

TITLE: Taking into account the selection rules for scattering of particles with different masses, in determining the analyticity domains of the diagram contribution

PERIODICAL: Ukrayins'kyy fizychnyy zhurnal, v. 7, no. 10, 1962, 1046-1049

TEXT: Starting from an integral representation of the general contribution of Feynman's diagram, the author determines the domain of analyticity in the scattering of π mesons by π mesons (determined in a different way by T. Wu), of nucleons by nucleons and of π and K mesons by nucleons. It is sufficient to substitute in the denominator of each integrand the lower limit of the corresponding function and to find the set of (s, t) points for which the denominator is larger than 0 when all x, y, z belong to the interval (0,1); the intersection of the domains obtained in this way defines the domain of analyticity of the total contribution. The

Card 1/2

KOSTYRKO, I.I.

Analytical properties of a graph with one circuit and five external mamenta. Dop. AN URSR no.2:161-164 '62. (MIRA 15:2)

1. Institut matematiki AN USSR. Predstavleno akademikom AN USSR Yu. A.Mitropol'skim [Mytropol's'khi, IU.O.]
(Geometry, Analytic--Graphic methods)

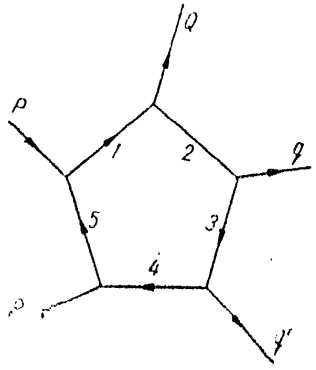
30834
S/041/61/013/004/005/007
B125/B112

Analytical properties of ...

Read as follows: K. Symanzik, Prog. Theor. Phys., 20 (1958), 69; N. Nakanishi, Progr. Theor. Phys., 22 (1959), 128-144; J. G. Taylor, Annals of Physics, 10 (1960), 516-535.

SUBMITTED: July 10, 1961 (Kiyev)

Fig. 1



Card 3/5

Analytical properties of ...

Cimento, 19 (1961), 77-89) kinematics in the form $\gamma(x) = [A(x) + B(x)\omega + i\epsilon]$. M_F depends upon the invariants ω, Δ^2, ν, Δc, and $d^2 + c^2$:

$$M_F(Q,q,q',p,P) = M_F(\omega,\Delta^2,\nu,\Delta c,d^2+c^2) \quad (11).$$ In metrics where $p^2 = -m^2$,

$$\begin{aligned}
B(x) &= -2\sqrt{m^2+\Delta^2}\,(x_3+\nu x_4)\,x_1,\\
A(x) &= m^2(x_1^2+x_2^2+x_3^2+x_4^2+x_5^2+x_1x_2+x_2x_3+x_3x_4+x_4x_5+x_5x_1)+\\
&+\frac{1}{2\nu(1-\nu)\Delta^2}\{[-3\nu\Delta^4+4\nu^2\Delta^4+\nu\Delta^2(d^2+c^2)-2\nu\Delta^3c+\nu\Delta^2m^2(1-\nu+\nu^2)]\times\\
&\times x_1x_4+4[2\nu\Delta^4(1-\nu)+m^2\nu\Delta^2(1-\nu)]x_2x_5-[2\Delta^4(2\nu-1)^2+\Delta^2m^2(2\nu-1)^2+\\
&+\Delta^2m^2+2\Delta^2(d^2+c^2)+4\Delta^3c(1-2\nu)]\,x_3x_5+[4\nu\Delta^2m^2(1-\nu)+2\nu^3m^2\Delta^2+\\
&+2\nu\Delta^4+2\nu\Delta^2(d^2+c^2)-4\Delta^3c\nu]\,x_2x_4-[\Delta^2+c^2+d^2+2\Delta c(1-2\nu)+\\
&+(1-\nu+\nu^2)m^2]\,\Delta^2x_1x_3\}.
\end{aligned} \quad (12)$$

holds. The conditions on which the dispersion relations

Card 3/5

Analytical properties of ...

transforming ϵ into $\epsilon(B)$, i.e., by changing the sign of B(x) from Eq. (1) and by changing the advanced amplitude. The following lemma is given: If there is such a positive number a that $|A(x)|>a$ holds for all x, in which $B(x) = 0$, $\sum_{i=1}^{n} x_i = 1$ (a being independent of x), the retarded amplitude is continuable into the upper semi-plane. The masses of the particles involved in the process are equal to m. The diagram (Fig. 1) contributes

$$M_F = \text{const} \int \frac{\delta\left(1-\sum_{i=1}^{5} x_i\right)\prod_{i=1}^{5} dx_i}{U^2(x)[V(x)-i\varepsilon]^3}. \qquad (2),$$

where $U(x) = \sum_{i=1}^{5} x_i = 1$ (3) and $V(x) = m^2(x_1^2 + x_2^2 + x_3^2 + x_4^2 + x_5^2 + x_1x_2 + x_2x_3 + x_3x_4 + x_4x_5 + x_5x_1) + 2(P_p x_1x_3 + Qqx_1x_4 - pq'x_2x_4 - PQx_2x_5 + qq'x_3x_5$ (4). (4) is represented by means of G. R. Screaton's (Nuovo

Card 2/5

24.2500 (1538, 1057, 1138)

S/041/61/013/004/005/007
B125/B112

AUTHOR: Kostyrko, I. I.

TITLE: Analytical properties of contributions from diagrams with five outer momenta

PERIODICAL: Ukrainskiy matematicheskiy zhurnal, v. 13, no. 4, 1961, 98-104

TEXT: A method of J. C. Taylor (Annals of Physics, 10 (1960), 516-535) was used to determine additional conditions for the applicability of energy dispersion relations with respect to inelastic processes corresponding to outer momenta with a closed contour. J. C. Taylor had found the conditions for the existence of dispersion relations with respect to energy. Every diagram regarded as function of energy offers the contribution

$$M_p(\omega,\Delta^2) = \lim_{\varepsilon\to 0+}\int\prod_{i=1}^{n} dx_i\,\delta\left(\sum_{i=1}^{n} x_i - 1\right)\left[A(x) + B(x)\omega + i\varepsilon\right]^{n-2\alpha} \quad (1),$$

where $A(x)$, $B(x)$ functions of Feynman parameters, and α denotes the number of independent inner parameters. The retarded amplitude is obtained by

Card 1/5

L 43983-66

ACC NR: AP6030152

weak magnetic fields (such as the Earth's) is minimum when the control current is equal to 40 ma. The absolute measurement error or the sensitivity threshold of this transducer at the above value of the control current is 2×10^{-3} Oe. Magnetic fields with intensities > 1 Oe may be measured with an accuracy of ± 0.1%. Orig. art. has: 3 figures.

[BD]

SUB CODE: 09/ SUBM DATE: 12Jul65/ ORIG REF: 001/ OTH REF: 001/ ATD PRESS: 5070

Card 2/2 ULR

L 43983-66 EWT(m)/EWP(t)/ETI IJP(c) JD

ACC NR: AP6030152 SOURCE CODE: UR/0120/66/000/004/0169/0170

AUTHOR: Galavanov, V. V.; Kostyrko, G. P.

ORG: Physico-technical Institute, AN SSSR, Leningrad (Fiziko-tekhnicheskiy institut AN SSSR)

TITLE: Cooled high-sensitivity InSb Hall transducer

SOURCE: Pribory i tekhnika eksperimenta, no. 4, 1966, 169-170

TOPIC TAGS: Hall effect, Hall transducer

ABSTRACT: The characteristics of an n-type InSb Hall transducer with an impurity concentration of 8×10^{13} cm^{-3} and an electron mobility of $(2—3) \times 10^5$ $cm^2/v\text{-}sec$ at 78K are presented. The transducers were made from crystals 10—12 mm long, 4—6 mm wide, and 0.5—1 mm in thickness, which was later reduced to 0.15—0.25 mm by polishing. Since the tests were made using temperature cycling with the lowest temperature reaching 78 K, it was necessary to select a substrate material whose coefficient of expansion would match that of InSb. Glass with an intermediate 10—15 μ layer of mica was considered suitable. The test results at constant current using two samples show that the resistance between the current and Hall electrodes are 15—25 and 40—90 ohms, respectively. The Hall voltage as a function of control current at constant magnetic force (H = 100 Oe) behaves linearly up to the value of 15 ma. Experimentally, it was established that the measurement error when measuring

Card 1/2 UDC: 621.382.61

ABDULLAYEV, I.K.; KOSTYRKO, D.R.

Studying the food value of leaves in recently developed mulberry varieties; results of spring experiments in rearing silkworm larvae in the Kuba-Khachmas zone. Dokl.AN Azerb.SSR 17 no.9:819-824 '61. (MIRA 15:3)

1. Institut genetiki i selektsii AN AzSSR.
(Azerbaijan--Mulberry--Varieties)

KOSTYRKO, D.R.

Perennial grass mixtures for the Kuba-Khachmass zone now under irrigation. Izv. AN Azerb. SSR. Ser. biol. i med. nauk no.11:38-46 '61. (MIRA 15:3)

(AZERBAIJAN--GRASSES)

KOSTYRKO, D.R.

Seeding methods for perennial and annual grasses grown for seed production in irrigated regions. Izv. AN Azerb. SSR, Ser. biol. i med. nauk no.2:45-48 '61. (MIRA 14:6)
(AZERBAIJAN—GRASSES) (SOWING)
(SEED PRODUCTION)

KOSTYRKO, Andrzej; PSZONA, Stanislaw; ZARNOWIECKI, Krzysztof

Method of producing standard sources of contaminations for the calibration of dosimetric instruments. Nukleonika 7 no.6:427-429 '62.

1. Instytut Badan Jadrowych, Dzial Dozymetrii, Polska Akademia Nauk, Warszawa.

KOSTYRKO, Andrzej; WISNIEWSKI, Artur; ZARNOWIECKI, Krzysztof

A method of producing scintillation layers ZnS for the detection of α particles. Nukleonika 7 no.6:425-428 '62.

1. Instytut Badan Jadrowych, Dzial Dozymetrii, Polska Akademia Nauk, Warszawa.

BIEGUSZEWSKI, Zygmunt; ZARNOWIECKI, Krzysztof; KOSTYRKO, Andrzej

Characteristics and operational data obtained from experiments during the operation of the ion exchange unit in the primary cooling system of the "Ewa" reactor. Nukleonika 7 no.6:407-417 '62.

1. Institute of Nuclear Research, Polish Academy of Sciences, Warsaw.

P/046/62/007/006/005/005
D204/D307

21660

AUTHORS: Kostyrko, Andrzej, Wiśniewski, Artur, and Żarnowiecki, Krzysztof

TITLE: A method of preparation of scintillating ZnS layers for detecting α-particles

PERIODICAL: Nukleonika, v. 7, no. 6, 1962, 425 - 429

TEXT: The described method was aimed at producing α-detectors possessing the highest possible efficiency. Scintillator layers of predetermined, even thickness (2-20 mg/cm^2) with the correct grain distribution may be successfully prepared by sedimentation. The resulting delicate coatings (deposited on methyl polymethacrylate) are best bonded firmly onto the base by exposing the coatings to chloroform vapor, which dissolves the outermost layer of the plexiglass. As a result the scintillating layer sinks in to a shallow depth, so that the top of the layer remains perfectly free of the bonding agent. The best results were obtained with Grade 256/1 ZnS, produced by Derby of Gt. Britain, deposited to a thickness of 4 mg/cm^2 on an organic glass base. The optimum performance was ob-

Card 1/2

KOSTYRKO, A. (Lengyelország)

Experiments on binding J-131 from aqueous solutions by means of peat preparates. ATOMKI kozl 5 no.2:107-109 '63

P/046/62/007/006/003/005
Characteristics of the ion-exchange ... D204/D307

ASSOCIATION: Instytut badań jądrowych, PAN (Institute of Nuclear Research, PAS)

SUBMITTED: April 1962

Card 3/3

cationite MK-3 and strongly basic anionite IMAK-S4, and was used only when the reactor was not in operation. The flow of water through the unit was 7-10 m^3/hr, at $\sim$ 25°C. The resin bed was changed after 18 months although no difficulties had been observed after this period. The new packing consisted of MK-3 and IMAK-S4, washed previously with 1N HCl and 1N NaOH and mixed in the ratio of 5:6.5 by volume. The resultant packing was extremely effective and could be used for only $\sim$5 hours every 1-2 months. The original packing was analyzed, by spectroscopy, for radioactive contamination, 12 months after removal from the unit. The original activities of the mechanically separated resins could be largely reduced by a treatment with aq-NaCl, washing with water, regeneration with an acid or alkali and washing with water again. The resins fully maintained their physical and chemical properties and working exchange after regeneration. After separation of the resins in saturated aq. NaCl regeneration, the anionite retained a greater activity than the cationite, owing to the adsorbed cations complexing in the separating solution, to form negatively charged ions which were then adsorbed on the anionite. The spectroscopic measurements were carried out by L. Adamski and S. Pezon. There are 3 tables.

P/046/62/007/006/003/005
D204/D307

AUTHORS: Bieguszewski, Zygmunt, Zarnowiecki, Krzysztof, and Kostyrko, Andrzej

TITLE: Characteristics of the ion-exchange unit in the primary cooling system of the 'Ewa' reactor

PERIODICAL: Nukleonika, v. 7, no. 6, 1962, 407 - 417

TEXT: The performance of mechanical and ion-exchange filters is described, particular attention being paid to the ionite unit which had been used successfully over 18 months, operating for 1-2 hours 2-3 times a month. The mechanical porous glass filter was used to remove colloids and macro-molecular compounds from the water and the deposits were found to contain extremely fine particles of the anionite (from the ionite unit), Fe and Al hydroxides and silica, i.e. coagulated corrosion products of the primary cooling system. The filter was cleaned 2-3 times a year, by repeated successive washing with H_2SO_4 and NaOH and finally with deionized water. The ion-exchange filter was produced with a mixture of strongly acidic

Card 1/3

L 21913-66 EWT(m) DIAAP

ACC NR: AP6014472 SOURCE CODE: PO/0046/65/010/011/0738/0738

AUTHOR: Kostyrko, Andrzej; Jaworowski, Zbigniew

ORG: Department of Radiobiology and Health Protection, Institute of Nuclear Research, Warsaw-Zeran

TITLE: Scintillation cell for the determination of sup 222 Rn

SOURCE: Nukleonika, v. 10, no. 11, 1965, 738

TOPIC TAGS: radon, scintillation detector, chloroform, zinc, silver

ABSTRACT: A method was developed for preparing scintillation cells, which consists of dry deposition of Zn(Ag) phosphors on wetted inner surfaces of methyl-polymethacrylate plates, and fixation by the action of chloroform vapors. The parameters of the cells show the possibility of efficient determination of ^{222}Rn in samples containing less than one picocurie. [NA]

SUB CODE: 18 / SUBM DATE: 15Sep65 / ORIG REF: 001 / OTH REF: 001

Card 1/1

BEGUSHEVSKI, Zygmunt [Bieguszewski, Zygmunt]; ZHARNOVETSKI, Krzhyshtof [Zarnowiecki, Krzysztof]; KOSTYRKO, Andrzhey [Kostyrko, Andrzej]

Analysis of the water of the primary cooling circuit of the WWR-S reactor in Poland. Nukleonika 5 no.9:541-550 '60.

1. Institut yadernykh issledovaniy, Varshava, Otdeleniye ekspluatatsii reaktora

82270
P/046/60/005/03/02/006

Investigations on Radiolytic Decomposition of Water in the Primary Cooling Circuit of the "Ewa" Reactor

tute of General Chemistry). There are 6 figures and 8 references: 4 English, 2 Soviet, 1 Polish and 1 French.

ASSOCIATIONS: Instytut Badań Jądrowych, Warszawa (Institute of Nuclear Research, Warsaw), Zakład Eksploatacji Reaktora (Department of Reactor Maintenance)

SUBMITTED: February 1960

X

Card 6/6

Investigations on Radiolytic Decomposition of Water in the Primary Cooling Circuit of the "Ewa" Reactor

tity of H_2 evolved in the "Ewa" reactor is too low to form an explosive oxyhydrogen mixture; 2) resynthesis conditions in the "Ewa" reactor are favorable; 3) a shut-off deaerator does not induce any danger of H_2 accumulation and emination in the reactor circuit, and merely might speed up corrosion of steel parts by H_2O_2 and aluminum parts by H_2; 4) the yield of H_2 within operable temperatures in the primary circuit is independent from temperature; 5) the primary circuit of the "Ewa" reactor can be switched off 20 minutes after the reactor has been stopped to ensure entire elimination of H_2 from the primary circuit; 6) the same efficiency of radiolysis product removal, as is achieved under the present operation parameters of the deaerator (water flow about 90 m^3/h, air flow about 60 m^3/h), can be achieved at a water flow of 40 m^3/h; H_2 concentration in air from the deaerator should then not exceed 0.6%. At the close of the article the author acknowledges the courtesy of those who assisted him in his study. They are: Master of Engineering P. Szulc, a team of the Służba Operatorska Zakładu Eksploatacji Reaktora IBJ (Operator Service, Reactor Maintenance Department at the Institute of Nuclear Research), Master of Engineering K. Żarnowiecki, and Master of Engineering J. Wacławik of the Instytut Chemii Ogólnej (Insti-

X

Investigations on Radiolytic Decomposition of Water in the Primary Cooling Circuit of the "Ewa" Reactor

evolvement per kwh of thermal reactor power. No presence of H_2 in air samples from above the reactor water pool has been detected while water flow through the deaerator was continuously reduced at full reactor power (2 Mw). No traces of H_2 were detected, even after the water flow through the deaerator was entirely stopped. The conclusion to be drawn is either that resynthesis at a shut-off deaerator gives full protection against hydrogen emanation, or that minute quantities of H_2 evolved are diluted by the air of technological ventilation to a concentration not perceptible to the test instrument involved. A comparison of the quantity of hydrogen evolved (240 liters per hour), with the quantity required to form a saturated H_2 solution in the 20 m^3 of water in the primary circuit (360 liters) supports the first notion, i.e. that no H_2 emanation should be expected at a closed water flow. Tests showed that water temperature within 15-35.5°C has no effect on the quantity of H_2 evolved. Figure 6 shows that traces of H_2 in air from the deaerator, measurable by the analyzer used, entirely vanished within 20 minutes after the reactor was shut off (with the circulation going on). The conclusions drawn by the author are: 1) The quan-

Card 4/6

82270
P/046/60/005/03/02/006

Investigations on Radiolytic Decomposition of Water in the Primary Cooling Circuit of the "Ewa" Reactor

H_2 concentration increase for a water flow variation from 22 to 100 m^3/h is only approximately 0.1%, whereas it doubles in the range of 100 - 210 m^3/h. The variation in the quantity of H_2 evolved is analogous. The results show that withdrawal of radiolysis products noticeably influences the equilibrium between radiolysis reactions and resynthesis only after the water flow through the deaerator exceeds 100 m^3/h. The dependency of H_2 concentration (in %) and the quantity of H_2 evolved (in liters per hour) on the reactor power is presented in Figure 4, and the dependency of H_2 evolvement yield (in liters per kwh) on the reactor power in Figure 5. It also shows that the evolvement efficiency of radiolysis is highest at low reactor power (at 70 kw it amounts to 0.533 liters per kwh). As the reactor power grows to 0.3 Mw, the yield drops to 0.22 liters per kwh and in the range from 0.3 to 1.4 Mw amounts to 0.12 liters per kwh. Further growth in power does not exert any noticeable influence on the hydrogen evolvement efficiency. These data confirm that the resynthesis conditions are most unfavorable at low reactor power though the quantities of radiolysis products are low. As the reactor power grows, radiolysis is intensified (greater amount of H_2), yet resynthesis increases as well, which phenomenon results in a decrease in H_2

Card 3/6

Investigations on Radiolytic Decomposition of Water in the Primary Cooling Circuit of the "Ewa" Reactor

riable parameters were a) water flow through the deaerator, b) air flow through the deaerator, c) reactor power, d) water temperature in the primary cooling system. The concentration of H_2 (in volume %) was established by means of a thermoconductometric analyzer calibrated for the range 0-2% H_2. The lowest perceptible concentration of H_2 was 0.01%. Further on, results of measurements are presented. The dependency of H_2 concentration (in %) in the deaerator air on the air flow through the deaerator is shown in Figure 1, and that of H_2 (in liters per hour) evolved in the deaerator on the air flow through the deaerator in Figure 2. The figures show that the H_2 concentration varies between 0.53 and 0.1% at a variation of air flow from 4 to 160 m^3/h. The quantity of H_2 evolved in the deaerator is constant at an air flow higher than 45 m^3/h and amounts to an average of 237 liters per hour. At an air flow lower than 45 m^3/h, the rate of the evolved H_2 decreases linearly in conformity with the decrease of air flow. The dependency of H_2 concentration (in %) and the quantity of H_2 evolved (in liters per hour) in the deaerator on water flow is shown in Figure 3. The figure shows that the concentration varies from 22 to 210 m^3/h. The

Kostyrko, Andrzej

82270

P/046/60/005/03/02/006

21.1920

AUTHOR: Kostyrko, Andrzej

TITLE: Investigations on Radiolytic Decomposition of Water in the Primary Cooling Circuit of the "Ewa" Reactor

PERIODICAL: Nukleonika, 1960, Vol. 5, No 3, pp 133 - 142

TEXT: The author introduces the article with the principles of radiolysis in water, in conjunction with nuclear reactor engineering. The rest of the article deals with measurements of radiolytic water decomposition in the primary cooling system of the nuclear reactor "Ewa". The investigations had the purpose of 1) establishing the amount of oxyhydrogen mixture formed, 2) defining the dependency of cooling gases on water and air flow through the deaerator, 3) defining the dependency of the gas quantity on reactor power, 4) defining the influence of cooling water temperature on the quantity of radiolysis products, and 5) establishing the feasibility of the deaerator. On the assumption that an average of two H_2 particles are evolved in the radiolysis per one O_2 particle, the investigation was restricted to establishing the H_2 concentration in the air a) from the deaerator and b) from above the water shield of the reactor. Va

Card 1/6

KOSTYRIN, P.

KOSTYRIN, P.; VYSOCKII, S.

Advanced work methods with a shovel-type loader. p. 114 (Mechanisace. Praha. Vol. 2, no. 2/3, Feb./Mar. 1952)
SO: Monthly List of East European Accession, (EEAL), LC, Vol. 4, No. 6, June 1955, Uncl.

KOSTYRIN, A.P.

Shorter workday in sugar factories. Sakh.prom. 34 no.6:44-47 Je '60. (MIRA 13:7)

1. Sakharnyy zavod imeni Kalinina.
(Sugar industry) (Hours of labor)

KOSTYRIN, A.P.

Improve the utilization of machines and equipment. Sakh. prom. 31 no.2:35-38 F '57. (MLRA 10:4)

1. Sakharnyy zavod imeni Kalinina.
(Sugar industry--Equipment and supplies)
(Material handling)

KOSTYRIN, A.P., inzhener.

Mechanization and automatization of operations at the Kalinin sugar plant. Mekh.trud.rab. 11 no.1:37-38 Ja '57. (MLRA 10:5)
(Sugar industry--Equipment and supplies)

1. KOSTYRIN, A. P.

2. USSR (600)

4. Valves

7. Valuable suggestions. Sakh.prom. 26 no 10, 1952.

9. Monthly List of Russian Accessions, Library of Congress, January 1953. Unclassified.

KOSTYRIN, A.M.

Raise norms for repair work. Sakh. prom. 32 no.2:51-54 F '58.
(MIRA 11:3)

1. Sakharnyy zavod imeni Kalinina.
(Sugar industry--Production standards)

L 41155-66

ACC NR: AP6020557

sured on a spectrophotometer. The specimens were pressed into tablets (4 mg of the investigated substance per 200 mg of KBr). The red-brown color of the substance from the bottom and middle of the ampules corresponded to the gentle slope of the optical density curve in the 400—600 mμ region. No peaks characteristic for iron oxide were noted on the curve. For compressed sodium nitrate from any part of the ampule, a fine structure of the optical density spectrum in the 320—400 mμ region in the form of more than 20 peaks was characteristic. The presence of the fine structure can be explained by the development of defects in the sodium nitrate after dynamic compression. Heating of the compressed sodium nitrate at 225C for 2 hr did not change the optical density spectrum. A chemical analysis of the red-brown phase for the content of sodium and nitrogen revealed a satisfactory agreement between determinations. Sodium was determined by the flame photometry method and nitrogen by Reich's and Kjeldahl's methods with preliminary reduction of the nitrate to ammonia. The deviation of the results of the analysis from stoichiometry were within 1—2%, i.e., at the level of defects. A physical examination of the nature of the defects was not carried out, but it was assumed that the defects in the compressed sodium nitrate were formed as a result of the transfer of a charge from the nitrate ion to the sodium ion. It is concluded that as a result of the dynamic compression of $NaNO_3$ defects, electroneutral atoms, or groups of atoms of sodium occur. The hypothesis of the transport of a charge to the sodium ion is attested to by the increase of the dielectric constant: in a specimen with a density of 2.05 the dielectric constant is 8.1 as opposed to 7.1 for the original $NaNO_3$. The investigation of defects in $NaNO_3$ subject to compression will be continued. Orig. art. has: 3 tables and 3 figures.

Card 2/2 nls SUB CODE: 19,20/ SUBM DATE: 28Sep65/ ORIG REF: 005/ OTH REF: 001

L 41154-66 EWP(m)/EWT(1)/EWT(m)/EWP(t)/ETI IJP(c) JD/JD

ACC NR: AP6020557 SOURCE CODE: UR/0414/66/000/001/0100/0104

AUTHOR: Batsanov, S. S. (Novosibirsk); Deribas, A. A. (Novosibirsk); Kutolin, S. A. (Novosibirsk); Kostyreva, I. V. (Novosibirsk)

ORG: none

TITLE: Effect of an explosion on a substance. Dynamic compression of sodium nitrate

SOURCE: Fizika goreniya i vzryva, no. 1, 1966, 100-104

TOPIC TAGS: sodium nitrate, compression shock wave, compressive stress, spectrophotometric analysis

ABSTRACT: The properties of polycrystalline sodium nitrate subjected to dynamic compression were investigated. Dynamic compression of $NaNO_3$ was accomplished by exploding 70–150 g of trimethylene trinitramine in the presence of 1.40 g of the investigated substance in a standard ampule, 5 mm in diameter and 40 mm long. After detonation and opening of the ampules the appearance of a red-brown color along the axis of the ampules was noted in all cases. A special analysis of this portion of the specimen showed the presence of up to 1% iron, consequently the red color of the crystals can be due to admixtures of iron compounds. The optical density of the specimens of sodium nitrate subjected to dynamic compression was mea-

Card 1/2 UDC: 662.215.2

ACC NR: AP6029038 (A) SOURCE CODE: UR/0413/66/000/014/0055/0055

INVENTORS: Mikhalov, I. I.; Novikov, A. N.; Bogdanov, A. S.; Kostyrev, V. A.; Mikhaylova, M. P.

ORG: none

TITLE: A method for producing an elastic heat-resisting glued joint in metals and in nonmetallic construction materials. Class 22, No. 183858

SOURCE: Izobret prom obraz tov zn, no. 14, 1966, 55

TOPIC TAGS: metal gluing, glue welding, glue, construction material, rubber

ABSTRACT: This Author Certificate presents a method for producing elastic heat-resisting glued joints in metals and in nonmetallic construction materials, with pressure applied in the course of gluing, and with the use of two different heat-resisting glues. To insure the elasticity of a glued joint under low gluing pressure, a mixture of two types of glues is used. One of the glues is characterized by low viscosity and frangibility (for instance, phenol polyvinylacetal), while the lower layer is made of an elastic glue (such as phenolic rubber).

SUB CODE: 13, 11/ SUBM DATE: 27Jan65

Card 1/1

UDC: 621.792.4.05

KOSTYREV, O.L.

Controlled depth valve. Mash. i neft.obor. no.11:3-4 '64. (MIRA 19:1)

1. Ob"yedineniye "Krasnodarneftegaz".

KOSTYREV, O.

Remote liquid level indicator for tanks. Neftianik 6 no.11:16-17 N '61. (MIRA 14:12)

1. Nachal'nik tsekha perekachki neftepromyslovogo upravleniya Prizovneft'.

(Tanks)
(Remote control)
(Liquid level indicators)

KULIK, I.L.; PLECHOVA, Z.N.; KHRAMEYEVA, A.V.; KOSTYREV, V. ..; BEBESHKO, S.V.; KUZ'MINA, N.K.

Zoological premises for the existence of natural tularemia foci in the Chuvash A.S.S.R. Zool. zhur. 44 no.1:17-25 '65.

(MIRA 18:4)

1. Institut epidemiologii i mikrobiologii AMN SSSR, Moskva, Respublikanskaya sanigarno-epidemiologicheskaya stantsiya, Cheboksary, Moskovskiy gosudarstvennyy universitet i Cheboksarskiy pedagogicheskiy institut.

The Improvement of the Connection Circuit of the Self-Registering Frequency Meter Type N-335

connecting a capacitor between the transducer motor and the coil. For high-speed recording, the speed of the capacitor is inadequate and therefore the author installed a relay of type EO-103, as shown in Figure 1.
There is1 circuit diagram.

8 (6) SOV/91-59-4-18/28

AUTHOR: Kostyrev, L. N., Technician

TITLE: The Improvement of the Connection Circuit of the Self-Registering Frequency Meter Type N-335 (Ob usovershenstvovanii skhemy vklucheniya registriruyushchego chastotomera tipa N-335)

PERIODICAL: Energetik, 1959, Nr 4, pp 25 - 26 (USSR)

ABSTRACT: The frequency meter N-335 has a deficiency in its design which causes frequent damage to the tape winder coil. When performing repairs on the 400 volt panel for internal use, the switch from which the synchronous motor of the pulse transducer is fed is disconnected. The motor stops at the moment when a direct current pulse is fed to the coil of the tape spooling mechanism, which burns after several minutes, since it is not designed for prolonged operation. The possibility that the coil will burn is a fault of the manufacturer and the author has designed a modification which prevents the coil from damage by

Card 1/2

15-1957-10-14145

The Influence of Different Elements on the Fluorescence of Uranium in Sodium Fluoride

Ag, Hg, Pb, Bi, Cr, and Co sharply extinguish the fluorescence when present in quantities several times ten per cent of the weight of the bead. 4) Ca, Al, Tl, and Sn strengthen the fluorescence or produce changes in the color. When the relative concentration of U to Ca is 1:10,000, U fluoresces green. With higher Ca content, the intensity of fluorescence begins to increase and then decrease. The fluorescent color changes from yellow-green to blue. When the concentration of Al is $5 \cdot 10^{-5}$ g in the bead, it does not fuse to transparency. Tl and Sn strengthen the fluorescence when their concentration in the bead is $1 \cdot 10^{-5}$-$5 \cdot 10^{-5}$ g. 5) Ce, V, Nb, Ta, and Sb produce distinctive fluorescence in NaF. Ce and V give a red color, Sb a medium blue. The fluorescence of Nb and Ta is very similar to that for uranium. Some elements have a two-fold effect, depending on their concentration: with low concentrations they increase the fluorescence; with high they extinguish it.

Card 3/3

A. A. Rozbianskaya

The Influence of Different Elements on the Fluorescence of Uranium in Sodium Fluoride

beads of NaF weighing 5 mg and containing 5 x 10^{-9} g of U. The elements were introduced into the bead either by mixing with NaF or with the corresponding salt, in different proportions, in case of soluble compounds, by dipping the bead of NaF, which contains a definite quantity of U, into the quenching salt solution. When using the dipping method, it is necessary to know the precise weight of the bead, inasmuch as beads of different weights take up different amounts of solution. The intensity of fluorescence is strongly influenced by the surface of the bead, which is a function of the quality of fusion, of the cooling of the bead, and also of the quantity of NaF. The elements investigated may be divided approximately into five groups, according to their influence on the fluorescence of uranium. 1) Na, K, Rb, Zn, Ti, S, Mo, W, Cl, Br, and J show essentially no effect, even in relatively large quantities. 2) Be, Ce, La, Th, P, Ni, Fe, Mn, Cu, Sr, Cd, Mg, B, Se, Cs, Zn, Ba, Li, and Si extinguish fluorescence when present in the bead in large quantities (on the order of several per cent of the weight of the bead). 3)

15-1957-10-14145

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 10, p 124 (USSR)

AUTHORS: Starik, I. Ye., Starik, F. Ye., Atrashenkok, L. Ya., Kostyrev, G. B., Kosyakov, V. N., Krylov, A. Ya.

TITLE: The Influence of Different Elements on the Fluorescence of Uranium in Sodium Fluoride (Vliyaniye razlichnykh elementov na lyuminestsentsiyu urana vo ftoristom natrii)

PERIODICAL: Tr. Radiyev. in-ta AN SSSR, 1956, vol 7, pp 114-125

ABSTRACT: The principal merits of the fluorescent method of determining U are its simplicity, speed, and high sensitivity. It is possible to determine up to 1 x 10^{-10} grams of U in the bead. The precision of the determination is generally close to 20%. In any method using different activators, measuring devices, and sources of ultraviolet light, impurities exert considerable influence by altering the fluorescence of the Uranium or by extinguishing it. The influence of 45 elements on the fluorescence of U in NaF was studied. The investigations were made on

Card 1/3

ILLEGIBLE

OVCHININSKIY, N.N., dots.; KOSTYREV, A.S.; YELINEVSKAYA, N.S.

Surgical treatment of stab wounds of the heart (analysis of clinical cases). Khirurgiia, Moskva 34 no.11:36-41 N '58. (MIRA 12:1)

1. Iz kafedry obshchev khirurgii (zav. - prof. V.A. Ivanov) II Moskovskogo meditsinskogo instituta im. N.I. Pirogova (dir. - prof. O.V. Kerbikov).
(HEART, wds. & inj.
stab wds., surg. (Rus))

SHIROKOV, A.P., kand.tekhn.nauk; KUZ'MIN, G.P., inzh.; KOSTYREV, A.P., inzh.

Using chain saws in mechanical coal mining. Mekh.i avtom. proizv. 15 no.8:37-38 Ag '61. (MIRA 14:9)
(Coal mining machinery)